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N62661 AR 001877
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C-NAVY-01-05-1801W

January 31, 2005

Project Number N4152

Mr. Curtis Frye
Remedial Project Manager
EFA Northeast, Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop 82
Lester, Pennsylvania 19113

Reference: CLEAN Contract No. N62467-94-D-0888
Contract Task Order No. 0833

Subject: Draft Action Memorandum
SA08 – NUSC Disposal Area
Naval Underwater Warfare Center, Middletown Rhode Island

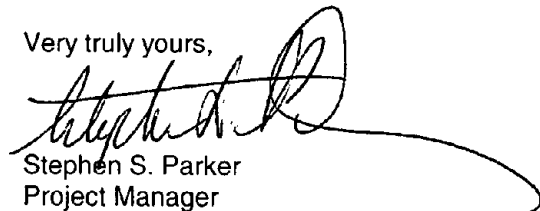
Dear Mr. Frye:

Enclosed per your request, you will find 4 copies of the Draft Action Memorandum for Drum and Paint Can Removal (Action Memo) for the site referenced above.

This Action Memo has been prepared to justify a non-time critical removal action to remove buried drums and paint cans at the site. In accordance with the scope of work, additional copies of this document have been provided to the recipients on the distribution list below for their review and comment.

If you have any questions regarding this material, please do not hesitate to contact me.

Very truly yours,



Stephen S. Parker
Project Manager

SSP/rp

Enclosure

- c: K. Keckler, USEPA (w/encl. – 4)
P. Kulpa, RIDEM (w/encl. – 4)
R. Machado, NUWC (w/encl. – 2)
C. Mueller, NAVSTA (w/encl. – 2)
J. Stump, Gannett Fleming (w/encl. 2)
J. Trepanowski/G. Glenn, TtNUS (w/ encl.)
File N4152-3.2 w/o encl, N4152-8.0 (w/encl.), N8856-8.0 (w/encl.)

ACTION MEMORANDUM

DATE: January 14, 2005

FROM: Captain Robert P. McLaughlin Jr., Commanding Officer Naval Station Newport

SUBJECT: Non-Time Critical Removal Action
Drums and Paint Cans
NUSC Disposal Area (Site 08)
Naval Station Newport, Newport, Rhode Island

1. PURPOSE

The purpose of this Action Memorandum is to document the decision by the U.S. Navy (Navy) to conduct a Non Time Critical Removal Action (NTCRA) under the Comprehensive Environmental Remediation, Compensation, and Liability Act (CERCLA) and the Federal Facilities Agreement (FFA) between the US Navy (Navy), the US Environmental Protection Agency (EPA), and the Rhode Island Department of Environmental Management (RIDEM) to remove areas of contaminated soil and debris at the NUSC Disposal Area, Site 08, located at the Naval Undersea Warfare Center (NUWC) in Middletown Rhode Island.

This action is being undertaken to remove contaminated materials and containers of waste material from the site. These materials will be removed from the site in order to eliminate the possibility of additional releases from these containers and contaminated materials to the soil, groundwater and downgradient receptors.

This NTCRA is being conducted by the Navy under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and the Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations).

2. BACKGROUND

The Naval Undersea Warfare Center (NUWC) is located in Middletown, Rhode Island. The NUSC Disposal Area occupies approximately 8 acres north of Building 185 and Cunningham Street. The Wampanoag Golf & Country Club borders the site to the north. Building No. 185, consisting of a series of four open-sided, covered sheds, with 2-foot concrete berms are considered the southeastern extent of the site. These sheds are used for the storage of drummed oils and torpedo propellants. A small stream, termed Deerfield Creek, and the surrounding wetlands make up the southwestern site boundary. The NUSC Disposal Area extends west-northwest to the small pond known as "Deerfield Pond" or "NUWC pond".

The upland portions were used as a fill area and storage areas since the Navy developed the area in the early 1950s. Currently there is a secured storage area and open storage area (both paved – approximately 2.3 acres) as well as open fields (1.6 acres) and brush covered areas (4.2 acres). The storage areas are used by NUWC for the temporary storage of large equipment.

There is limited available historical information on the NUSC Disposal Area. The site is reported to have been used for the disposal of scrap lumber, tires, wire, cable, and empty paint cans for an unspecified period of time between the 1950's and 1988. Possible chemical hazards may include VOCs and heavy metals from paint residues, as well as methane produced from the natural decomposition of organic materials.

A Study Area Screening Evaluation (SASE) for the NUSC Disposal Area was conducted to evaluate site conditions in June-November 2003. The SASE found some areas where elevated VOCs were present, and these, along with other target areas were investigated with a series of test pits, soil borings, and

groundwater monitoring wells. Cleaning solvents (trichloroethene [TCE] and tetrachloroethene [PCE] were found in groundwater at the north (downgradient) end of the site. Low concentrations of TCE were also found in soil, groundwater, and soil gas in the central portion of the site, along with buried drums (Buried Drum Area).

Other findings included a large number of buried deteriorated metal containers that are possibly empty aerosol paint cans in the stream embankment in the south west portion of the site (Buried Metal Container Area). Elevated concentrations of lead were found in soil mixed with these containers and in the stream sediments downstream as far as the NUWC pond

a) Proposed Action:

Two potential contamination source areas are to be removed under this Action Memorandum:

Buried Drum Area – A corroded 55-gallon drum containing a tar-like substance was removed (and disposed of off site) from Test Pit No. 2 (TP02). The drum was located approximately 3-6 feet below the ground surface. Two additional drums were observed in the side walls of the test pit but were not removed. The total number of drums remaining is unknown. Low concentrations of TCE were also found in soil gas, soils and groundwater at this area.

Buried Metal Container Area – A large number of what appear to be deteriorated aerosol paint cans and related debris in the stream embankment in the south west portion of the site, confirmed through the Test Pit No. 14 (TP14) excavation. Lead was found in soil co-located with these containers to a concentration of 830 mg/kg.

b. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant.

Low concentrations of TCE was detected in the soil gas, in the soil and in the groundwater near the Buried Drum Area. This indicates that drums present in this area may constitute a continuing source of this contaminant to the environment. Additionally, further deterioration of the steel drums in the ground will eventually result in a release of their contents.

Lead was detected in the soil amongst the metal containers at a concentration of up to 830 mg/kg. Lead was also detected in the sediment of the adjacent stream downstream of the Buried Metal Container Area for a distance of approximately 500 feet. This indicates that lead associated with the containers has been released to the soil and subsequently to the stream sediments. It is presumed that if left in place, this leaching will continue until the metal containers have completely decomposed and metals leach out of the soil completely.

c. National Priorities List (NPL) Status. On November 21, 1989, NETC Newport was added to the National Priorities List (NPL) (54 FR 48184). On March 23, 1992 Site 08 (NUSC Disposal Area) was recognized as a "Study Area" (SA) by the signing parties to the Federal Facilities Agreement (FFA) for NETC Newport. Therefore the Navy is required to take response actions pursuant to CERCLA and the terms of the agreement. These requirements include undertaking removal actions at areas which pose an imminent or substantial endangerment to human health or the environment.

Although NETC Newport has undergone change of name to NAVSTA Newport, NPL status is not affected.

3. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT**a. Threats to Public Health or Welfare.**

TCE was detected in the groundwater downgradient of the Buried Drum Area at a concentration of 1500 ug/l (TtNUS 2004). This concentration is in excess of the Federal Maximum Contaminant Level (MCL). While there are no public or private wells known downgradient of this location, the presence of the contaminants in groundwater, and the possibility that the drums are providing a continuing source of contaminants indicates that removal of the drums is appropriate to reduce the possibility of exposure through groundwater.

b. Threats to the Environment.

Lead was detected in the soil surrounding the buried metal containers, at concentrations of up to 830 mg/kg (TtNUS 2004). In addition, sediments in Deerfield Creek show similar concentrations of lead, indicating that the lead is leaching out of the containers and into the creek. Lead is a common industrial contaminant and toxicity to invertebrate organisms is documented at concentrations between 47 mg/kg and 218 mg/kg in sediment (Buchman, 1999).

c. Endangerment Determination

Actual or threatened releases of hazardous substances from the materials at the Buried Drum Area and Buried Metal Container Area, if not addressed by implementing the response action selected in this Action memorandum, may present an elevated risk of endangerment to public health, or welfare, or the environment. The Navy has determined that this threat can be abated, minimized, or eliminated by undertaking a removal action.

4. PROPOSED ACTIONS AND ESTIMATED COSTS**a. Proposed Action.**

The Navy shall solicit a contractor to conduct the work described in this section. The work will include mobilization, site preparation, excavation, staging, sampling and backfill; transportation and disposal, and demobilization. These efforts are described in the paragraphs that follow.

Mobilization will include preparation of the work plan and supporting documentation, including QA Plan, Health and safety plan, excavation plan, sampling and analysis plans, waste management plan, schedules, and erosion and sediment control plan. Plans will be prepared and reviewed by the Navy, then submitted to the regulatory oversight parties for their review and comment. Equipment will be acquired to conduct the work and brought to the site.

Site preparation will include setting up the work areas, and installation of a temporary office trailer and sanitation units as needed. The contractor shall conduct utility clearances in accordance with Navy procedures and public digsafes requirements, install temporary sediment and erosion control structures, and set up decontamination stations. The contractor will also erect temporary fencing and signage to prevent inadvertent access to the work areas by NUWC and Navy personnel for their protection. Finally, the areas to be excavated will be cleared of vegetation to allow proper excavation.

Excavation will be conducted at each area individually. At the Buried Drum Area, the soils in an area approximately an approximate 15 foot radius from the location where drums were previously found will be carefully excavated and stockpiled near the excavation. These soils will be field screened using field instruments as well as through olfactory and visual signs of contamination. Soils that exhibit contamination through these observations will be segregated on polyethylene sheeting from the rest of the soils excavated. Any drums that are encountered will be removed by the excavator equipped with a bucket and "thumb". Breached drums with any contents will be over packed immediately, and

staged for characterization. Empty drums found will be crushed and set aside for disposal as solid waste.

At the Buried Metal Container area, an excavation will be conducted in a predetermined location centering on the former Test Pit No. 14, toward the bank of Deerfield Creek, south to 10 feet from the utility pole nearby. Overlying clean soils will be staged near the excavation, and screened visually for presence of metal debris. Visual observation of deteriorated metal containers resembling spray paint cans will indicate presence of targeted waste, and will be segregated, staged on polyethylene sheeting and covered to prevent exposure to precipitation. Presence of these containers in side walls of the excavation will indicate the need to widen the excavation accordingly. It is estimated that 80 cubic yards of buried metal containers will require removal and staging for disposal.

Sampling and analysis of the material excavated will be conducted in accordance with the sampling and analysis plan provided by the contractor. The sampling effort will assure representative samples of material to be disposed of and analysis will be conducted in accordance with RCRA, as well as State and local restrictions pertinent to the final disposal location.

Both excavations will be backfilled using the material excavated and deemed to be not contaminated as per observations made during excavation. Sampling the soil to be returned as backfill is not anticipated. Remaining voids within the excavation will be filled with make up material, which will meet RIDEM Direct Exposure Criteria for Residential Use Soils, per RIDEM DSR-01-93, amended February 2004. All disturbed areas will be covered with four inches of topsoil, and seeded in accordance with RIDOT requirements for Road and Bridge Construction and General Highway Seeding. At the drum removal area, mulch will be provided to encourage seed germination and growth. At the Buried Metal Container area, a biodegradable erosion control blanket and/or mat (coir, jute, or equivalent) will be laid out over the sloped area and staked in place in accordance with manufacturer's instructions.

Transportation and disposal will be conducted within 90 days of excavating the waste material. Material will be characterized for disposal, and manifested as needed. All paperwork documenting transportation and disposal shall be provided to the Navy for approval prior to shipping. Materials shall be transported over the road via trucks in roll-off containers or other appropriate vehicles to a properly permitted receiving facility. The contractor will be responsible for coordinating transportation and disposal with the Navy's Northeast Region Hazardous Waste and Spill Manager, and providing completed manifests and return receipts as required.

Demobilization will include removal of equipment and materials from the site, and restoring any other areas that have been impacted during the excavation efforts to their original location and condition. A completion report will be prepared by the contractor performing the work and submit this report as a draft for comment, and as a final.

During all work, the Contractor will ensure that there is no visible material on the sides or tires of any vehicle leaving the site, or leaving the staging area. The Contractor will construct and use decontamination facilities to remove soil or debris from the outsides of the vehicles if necessary to assure soil is not tracked beyond designated work areas onto surrounding roadways. Decontamination fluids and solids will be captured daily, and stored on site before being characterized and disposed of as appropriate with other waste generated during the removal action.

- b. Contribution to Remedial Performance. A remedial investigation will be conducted in accordance with the Federal Facilities Agreement for the Naval Station Newport. Based on the findings of the remedial investigation, a feasibility study may be conducted to identify any need for additional actions to reduce risk to human and environmental receptors at the site. If a remedial action is necessary at the site, it would include removal of the buried containers and the buried drums. Conduct of this effort now as a removal action will prevent continued contaminant discharge from these containers and drums, and prevent the need to remove them at a later date. The removal of these containers would be necessary regardless of the future use of the site.

- c. Alternative Actions Considered. Alternative technologies for soils were not evaluated for these areas of this site. Because of the limited areas impacted, and because the material at each of the areas may be providing a continuing source of contaminants, removal and proper disposal was the only option considered.
- d. Applicable or Relevant and Appropriate Requirements (ARARs). The removal action will be conducted in compliance with all applicable federal, state, and local regulations for excavation and construction at potentially hazardous waste sites including, but not limited to the following ARARs:
- Resource Conservation and Recovery Act (RCRA), Subtitle C - Standards for Hazardous Waste Facilities (42 USC 6291 et seq.) - Soils and debris must be tested, and if hazardous, handled and disposed according to standards.
 - Clean Water Act (CWA), Section 402, National Pollutant Discharge Elimination System (NPDES) (33 USC 1342; 40 CFR Parts 122-125, 131) - Regulated discharges into surface waters must meet ambient water quality criteria.
 - Rhode Island Remediation Regulations (CRIR 12-180-001, Section 8; DEM-DSR-01-93, as amended August 1996) – Removal must comply with standards that may be more stringent than federal standards.
 - Rhode Island Clean Air Act - Fugitive Dust Control (RIGL 23-23 et seq.; CRIR 12-31-05) – Actions must take reasonable precaution to prevent particulate matter from becoming airborne.
 - Rhode Island Clean Air Act - Emissions Detrimental to Persons or Property (RIGL 23-23 et seq.; CRIR 12-31-07) – Actions must prevent airborne emissions of contaminants that may be injurious to humans, plant or animal life or cause damage to property.
 - Rhode Island Clean Air Act - Air Pollution Control (RIGL 23-23 et seq.; CRIR 12-31-09) - Removal action air emissions must be monitored and emissions controlled if necessary.
 - Rhode Island Clean Air Act - Air Toxics (RIGL 23-23 et seq.; CRIR 12-31-22) - Removal action air emissions must be monitored to assess compliance and operation and maintenance activities carried out in to minimize potential air releases.
 - Rhode Island Hazardous Waste Management Standards for Treatment, Storage, and Disposal Facilities (RIGL 23-19.1 et seq.; CRIR 12-030-003) – Soils and debris must be tested, and if hazardous, handled and disposed according to standards.
- e. Project Schedule. The projected start of the removal action is April 2005. The following project schedule has been developed in accordance with the FFA, required times for completion of tasks and other constraints.

Milestone	Proposed Start Date	Proposed Completion Date
Award Contract	29 September 04	29 September 04
Excavation and Removal	4 April 05	22 April 05
Excavation Area Grading and Seeding	11 April 05	15 April 05
Completion Report	22 April 05	20 May 05

- f. Estimated Costs. The estimated cost for the proposed removal action is \$184,383. There are no long-term operation, maintenance, or monitoring costs associated with this removal action.

5. ENFORCEMENT AND PUBLIC PARTICIPATION

The site is located on property held by the Navy, and as such the Navy holds responsibility for environmental concerns, including, risk reduction and remediation of sites as needed. State and Local authorities have not undertaken any removal actions at the site. However in accordance with the Federal Facilities Agreement, the state provides oversight of studies and actions conducted by the Navy. The ownership of the land at the site is not anticipated to change in the foreseeable future. Therefore, there is no anticipated need for state or local lead on removal actions for this site.

The action is being undertaken voluntarily by the Navy in accordance with the Federal Facilities Agreement for the NAVSTA Newport IRP. Regulatory agencies are anticipated to remain in an oversight role for the duration of the removal action, reviewing work plans, documentation and completion reports, and monitoring removal action efforts.

The local community provides input on the Navy's restoration efforts through the Restoration Advisory Board, a group of community members who meet with Navy representatives periodically to discuss progress and provide input on IRP sites.

6. RECOMMENDATION

The removal of the buried drums and buried metal containers will remove a possible continuing source of contaminants being released to the soil and groundwater of the site, and the sediment of Deerfield Creek. Therefore, the Navy recommends the implementation of the removal action described herein.

Approvals:

NAVSTA Newport

CAPT Robert P. McLaughlin, Jr.
Commanding Officer

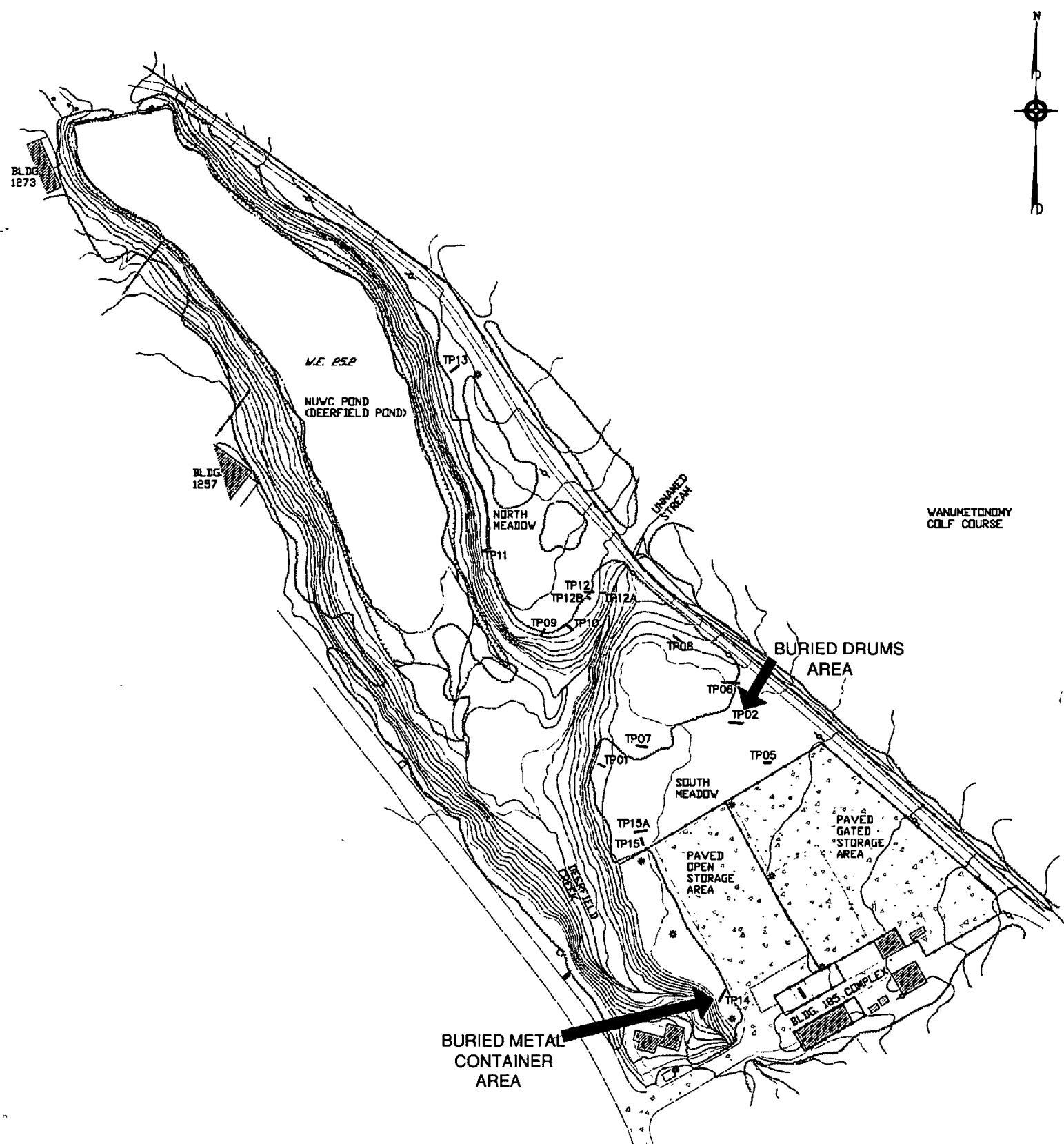
Date: _____

REFERENCES

DRAFT

Buchman, M.F., 1999. *NOAA Screening Quick Reference Tables*, NOAA HAZMAT Report 99-1, Seattle WA, Coastal Protection and Restoration Division, National Oceanic and Atmospheric Administration.

TtNUS 2004. *Draft Final Study Area Screening Evaluation for NUSC Disposal Area, Naval Undersea Warfare Center, Middletown Rhode Island*, Tetra Tech NUS, Inc. September.



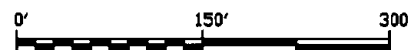
LEGEND:

- TEST PIT
- TP03 TETRA TECH SAMPLE I.D.
- * LIGHT POLE
- UTILITY POLE
- TRANSFORMER

NOTES AND REFERENCES:

1. PLAN PRODUCED BY LOUIS FEDERICI AND ASSOCIATES.
2. VERTICAL DATUM = NGVD 1929, SEE PLAN PROVIDED BY CLIENT ENTITLED "BUILDING 179 REMEDIAL INVESTIGATION FIGURE 2 EXISTING CONDITIONS PLAN, DATED 12/3/99, BY THE NAVAL UNDERSEA WARFARE CENTER DIVISION, PUBLISHED BY TRC, 12/99.
3. BENCH MARK PROVIDED BY CLIENT, SE CORNER O.W.S., SCRIBED X MARK TOP SE CORNER SLAB ABOVE BURIED OIL WATER SEPARATOR, ELEV. = 57.55, NGVD '29, AS DESCRIBED ABOVE.
4. HORIZONTAL DATUM = NAD 1983.
5. TO CONVERT TO NAVY MEAN LOW WATER DATUM, ADD 1.60 FEET TO NGVD '29 ELEVATIONS.
6. TOPOGRAPHY WAS PRODUCED BY DIGITAL PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY CONDUCTED APRIL 25, 1996. CHANGES TO CURRENT CONDITIONS CAN BE EXPECTED.

GRAPHIC SCALE



SOIL REMOVAL ACTION

NUSC DISPOSAL AREA

MIDDLETOWN, RHODE ISLAND

FIGURE 1



TETRA TECH NUS, INC.

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DRAWN BY: D.W.M. / R.G.D.

REV.: 0

CHECKED BY: S. PARKER

DATE: JULY 30, 2004

SCALE: AS NOTED

FILE NO.: DWG\4152\1410\FIG_1.DWG